# माधव प्रौद्योगिकी एवं विज्ञान संस्थान, ग्वालियर (म.प्र.), भारत
## MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR (M.P.), INDIA
### Deemed to be University
### (Declared under Distinct Category by Ministry of Education, Government of India)
### NAAC ACCREDITED WITH A++ GRADE

# ACTIVITY REPORT

Date:

| | |
|---|---|
| **Title of activity:** | In-house Training Module on "Data Science" |
| **Duration of activity:** | 30 July, 2024 to 01 August, 2024 |
| **Number of participants:** | 18 |
| **Organized by:** | **Centre for Artificial Intelligence** |
| **Brief Description of the activity:** | The training module was conducted with an intent to equip the internal faculty members of other departments with the concepts and tools of Data Sciences. The contents delivered during the training module are described briefly as:<br><br>● Day-1 session1: The module started with an introduction to the concepts of data science, its scope, applications etc., delivered by Dr. Bhagat Singh Raghuwanshi.<br><br>● Day-1 session2: During the second session of day one module, the concepts of Python programming were discussed with hands-on practice problems. The sessions for this day were delivered by Dr. Abhishek Bhatt.<br><br>● Day-2 session1: The sessions for this day were delivered by Dr. Bhagat Singh Raghuwanshi, during which he discussed some important libraries of Python which help to implement the concepts of data sciences. The libraries discussed were numpy for numerical computations and pandas for data manipulations. All the sessions were accompanied by hands-on practice problems.<br><br>● Day-2 session2: Dr. Abhishek Bhatt discussed the working and uses of matplotlib library for the visualization of data and results. After that Mr. Mir Shahnawaz Ahmad described various descriptive statistical methods used in data science and implemented the same using python programming. The day ended with the discussion regarding pre-processing of data. All the sessions were interactive and accompanied with hands-on practice on the related tools.<br><br>● Day-3 session1: Dr. Abhishek Bhatt started the day with the recapitulation of previously discussed concepts, then he discussed the concepts and methods of normalization of data, standardization of data. He also described the implementation of some significant machine learning techniques which included: linear regression, logistic regressions, classification. This day was specifically dedicated for any doubt clarification and further discussion regarding the concepts already covered during the module, in Online mode.<br><br>During all the sessions of the training module a thorough hands-on practice was carried out using Google Colab, Spider, Jupyter, Anaconda etc., to clearly explain and implement the concepts of data science. Daily quizzes were conducted with a final assessment at the end of the training module. |
| **Name of the Trainers:** | ● Dr. .Bhagat Singh Raghuwanshi<br>● Dr. Abhishek Bhatt |

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| **Objectives of the activity:** | ● To provide the fundamental knowledge of Data Science.<br>● To present the basic representation and exploratory data analysis used in Data Science.<br>● To understand the working of techniques used in Data Science. |
| **Outcomes of the activity:** | After completing the activity, the participants were able to:<br>● define different Data Science techniques.<br>● illustrate various tools used for Data Science techniques.<br>● apply data visualization techniques to solve real world problems.<br>● build exploratory data analysis for Data Science methods.<br>● apply Data Science techniques for solving real world problems.<br>● evaluate the performance of algorithms in data science. |
| **Mode of activity:** | M104 HPC Lab 1st Floor |

**Dr. Bhagat Singh Raghuwanshi**

**Dr. Abhishek Bhatt**

**Dr. Rajni Ranjan Singh**
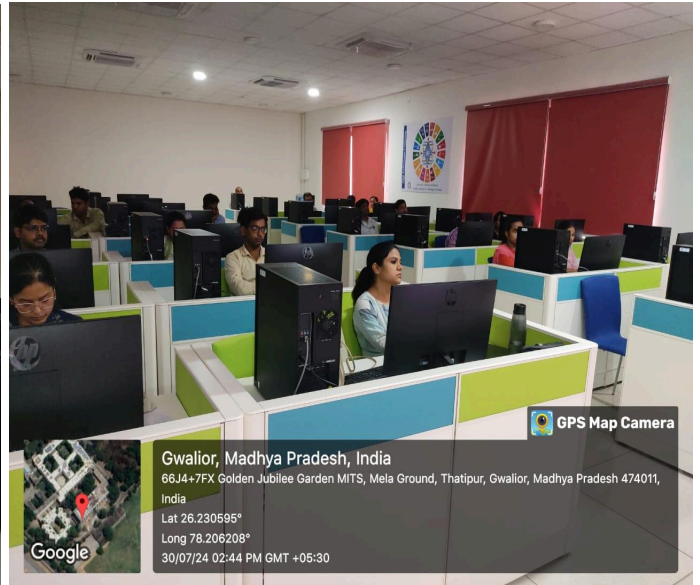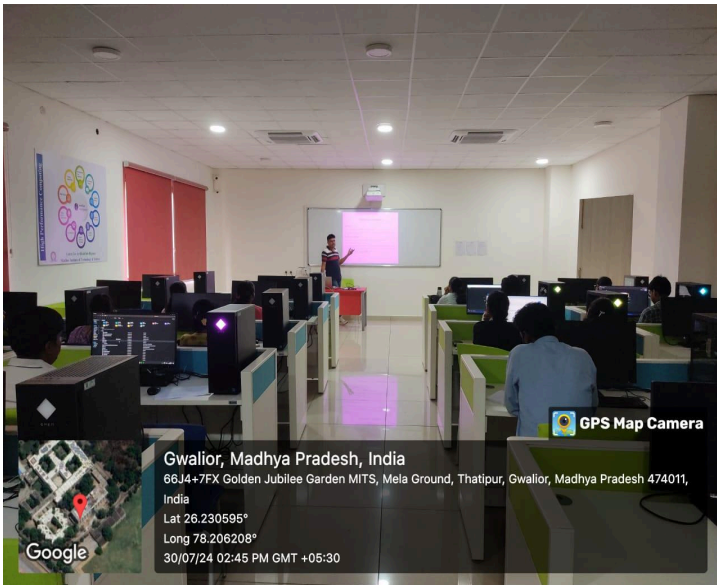Head, Centre for Artificial
Intelligence

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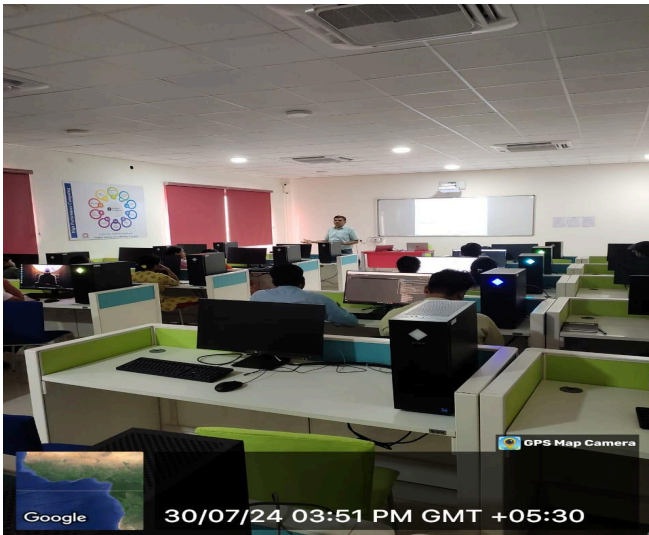
## Some Glimpses of the Activity:

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## Event Schedule:

| Day | Time | Course Contents | Trainer Name | Mode of Delivery |
|---|---|---|---|---|
| **Day 1 (30/07/ 2024)** | **11:00 am to 12:00 noon** | **SESSION 1:** Need for data science, benefits and uses, facets of data, data science process. | Dr. Bhagat Singh Raghuwanshi | Lecture cum discussion mode |
| | **02:00 pm to 04:00 pm** | **SESSION 2:** Introduction of basics python tool, Setting working Directory, Creating and saving a script file, File execution, removing variables from environment, clearing environment, Commenting script files. | Dr. Abhishek Bhatt | Hands on/ Experimentation based mode |
| **Day 2 (31/07/ 2024)** | **11:00 AM to 1:00 PM** | **SESSION 1:** Introduction of basics python tool, Setting working Directory, Creating and saving a script file, File execution, removing variables from environment, clearing environment, Commenting script files. | Dr. Bhagat Singh Raghuwanshi | Lecture cum discussion mode with hands-on |
| | **02:00 pm to 03:45 pm** | **SESSION 2:** Control structures, loop, Functions, data structures: Lists, Arrays, Tuples, Dictionary, Sets. | Dr. Abhishek Bhatt | Hands on/ Experimentation based mode |
| **Day 3 (01/08/ 2024)** | **11:00 am to 12:00 noon** | **SESSION 1:** Introduction to Pandas library. Data frame and data frame related operations, Reading Dataset file. | Dr. Abhishek Bhatt | Lecture cum discussion mode with hands-on |
| | **12:15 PM to 01:15 PM** | **SESSION 2:** Final Assessment | Dr. Bhagat Singh Raghuwanshi Dr. Abhishek Bhatt | Hands on/ Experimentation based mode |
| **\*Also a quiz will be conducted at the end of each day.** | | | | |

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## Event Attendance:

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**Centre for Artificial Intelligence**
Attendance list
**Peer to peer training Attendance of faculty member**
**Peer-Learning Workshop on Data science using python**

| Sr. No. | Name of Faculty | Dept. Name | Signature 30/07/2024 | 30/07/2024 | 31/07/2024 | 31/07/2024 | 01/08/2024 | 01/08/2024 |
|---|---|---|---|---|---|---|---|---|
| 1 | Dr. Priyanka Garg | CIoT | | | | | | |
| 2 | Dr. Hemant Shrivastava | CE | | | | | | |
| 3 | Dr. Anjali Patil | Arch | | | | | | |
| 4 | Dr Atul Kumar Ray | MAC | | | | | | |
| 5 | Shivangi Sharma | Chemical Engineering | | | | | | |
| 6 | Prof. Rajeev Kumar Singh | I.T. | | | | | | |
| 7 | Dr. R. Jenkin Suji | Electronics Engineering | | | | | | |
| 8 | Dr. Devanshu Tiwari | Computer Science & Business System | | | | | | |
| 9 | Dr. Hardev Singh Pal | Centre for AI | | | | | | |
| 10 | Prof. Vaibhav Shivhare | Mechanical | | | | | | |
| 11 | Richa Sharma | Electrical | | | | | | |

| | | | 30/7/24 | 30/7/24 | 31/7/24 | 31/7/24 | 01/08/24 | 01/08/24 |
|---|---|---|---|---|---|---|---|---|
| 12 | Dr. Saurabh K. Rajpoot | Centre for IoT | | | | | | |
| 13 | Dr. Abhilash Shukla | Civil Engg | | | | | | |
| 14 | Dr. Nidhi Saxena | Internaticnated | | | | | | |
| 15 | Dr. Dablu Kumar | Electronics Engg | | | | | | |
| 16 | Dr. Nitin Upadhyay | MF | | | | | | |
| 17 | Dr. Jaimala Jha | CSE | | | | | | |
| 18 | Neha Para (RA) | AI | Neha | Neha | | | | |

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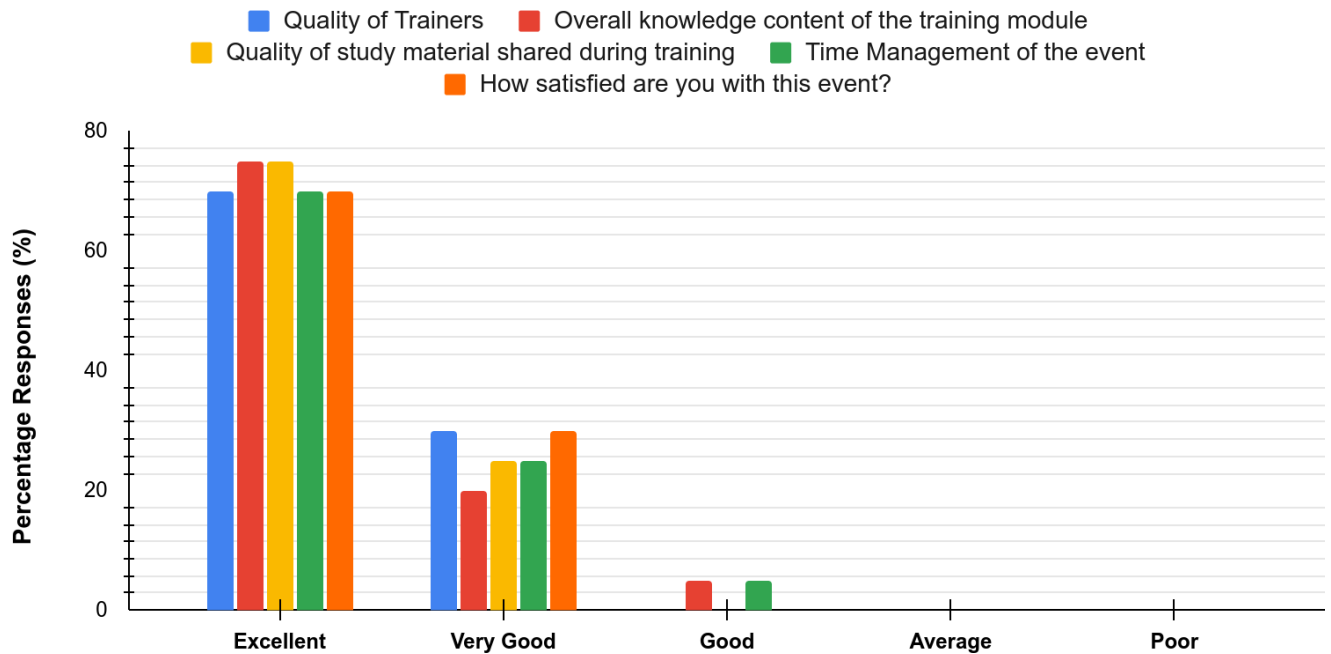NAAC ACCREDITED WITH A++ GRADE

## Result of Daily Quizzes, Final Assessment & Grades Obtained:

| S. No. | Name of the Faculty | Branch | Quiz-1 Marks/10 | Quiz-2 Marks/10 | Quiz-3 Marks/10 | Quiz-4 Marks/10 | Attendance Marks/10 | Final Assessment Marks/50 | Total Marks (Out of 100) | Grade Obtained |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Dr. Priyanka Garg | CIOT | 9 | 10 | 9 | 9 | 10 | 47 | 95 | A+ |
| 2 | Dr. Hemant Shrivastava | CE | 10 | 8 | 10 | 8 | 8 | 44 | 90 | A+ |
| 3 | Dr. Anjali Patil | Arch. | 8 | 3 | 7 | 9 | 10 | 47 | 84 | A |
| 4 | Dr Atul Kumar Ray | MAC | 7 | 10 | 9 | 10 | 10 | 47 | 94 | A+ |
| 5 | Shivangi Sharma | Chemical Engg. | 8 | 8 | 8 | 9 | 10 | 43 | 90 | A+ |
| 6 | Prof. Rajeev Kumar Singh | IT | 7 | 8 | 7 | 7 | 7 | 37 | 76 | B+ |
| 7 | Dr. R. Jenkin Suji | Electronics Engg. | 8 | 10 | 10 | 9 | 9 | 47 | 93 | A+ |
| 8 | Dr. Devanshu Tiwari | CS & BS | 9 | 8 | 10 | 9 | 8 | 40 | 83 | A |
| 9 | Dr. Hardev Singh Pal | Centre for AI | 8 | 8 | 9 | 9 | 10 | 47 | 90 | A+ |
| 10 | Prof. Vaibhav Shivhare | Mechanical Engg. | 7 | 8 | 9 | 8 | 10 | 47 | 91 | A+ |
| 11 | Richa Sharma | Electrical Engg. | 8 | 10 | 9 | 9 | 10 | 40 | 85 | A |
| 12 | Dr. Saurabh K. Rajpoot | Centre for IOT | 8 | 8 | 9 | 8 | 10 | 47 | 90 | A+ |
| 13 | Dr. Abhilash Shukla | Civil Engg. | 10 | 10 | 9 | 9 | 10 | 47 | 95 | A+ |
| 14 | Dr. Nidhi Saxena | IT | 8 | 8 | 10 | 9 | 10 | 43 | 90 | A+ |
| 15 | Dr. Dablu Kumar | Electronics Engg. | 9 | 5 | 9 | 8 | 3 | 47 | 80 | A |
| 16 | Dr. Nitin Upadhyay | Mechanical Engg. | 8 | 8 | 9 | 9 | 10 | 47 | 90 | A+ |
| 17 | Dr. Jaimala Jha | CSE | 10 | 8 | 9 | 9 | 10 | 50 | 94 | A+ |
| 18 | Neha para (RA) | AI | 7 | 8 | 9 | 10 | 10 | 43 | 90 | A+ |

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# Event Feedback Analysis:



Additional comments/suggestions by the participants:

- Very interactive sessions.
- Overall nicely covered all topics. Thanks for the wonderful training program.
- All sessions were very informative. Thanks to all trainers.
- Thanks to all for sharing the Data Science knowledge.
- Very informative Sessions
- very good explained by all faculty
- Nice experience but I requested to you please arrange some more classes for better understanding.
- Trainers has given good training only due to less time it becomes little bit tedious. Trainers are very helpful and all doubts of the same session were solved instantly. Overall i am very happy with the training provided and hope to learn from them in future because this area gives me an immense opportunity to explore.
- "The training was wonderful. We learnt a lot and will try to implement the gained knowledge with students.
- nice session but more sessions are required for better understanding
- Fully satisfied.